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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,058	07/09/2003	James Richardson Lattner	97B049-4	9531
23455	7590	12/15/2004		
EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			EXAMINER DOROSHENK, ALEXA A	
			ART UNIT 1764	PAPER NUMBER

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,058

Applicant(s)

LATTNER ET AL.

Examiner

Alexa A. Doroshenk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 28-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7-9-03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "regeneration medium, preferably a gas comprising oxygen 20" on page 12, line 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled

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"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: The status of the related applications should be updated in the first line of the specification as application 08/887,766 is now U.S. Patent No. 6,023,005 and application 09/414,002 is now abandoned.

Appropriate correction is required.

Claims Analysis

4. It is noted that the claims recite "a reactor system". A "system" is not a statutory class of invention and therefor it is required that the appropriate statutory class of invention be determined by the examiner, for examination purposes. The examiner has determined that claims 28-38 are directed toward an apparatus and therefor the appropriate principles for interpreting claims for that particular category of invention have been applied.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 28-33, 35 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Wegerer et al. (5,451,313).

With respect to claim 28, Wegerer et al. discloses an apparatus comprising:
a riser reactor (16) having a first and second end;
a disengaging zone (10) in fluid communication with the second end;
the disengaging zone (10) having a first catalyst discharge line (22) and a second catalyst discharge line (42);
the second discharge line (42) in communication with a regenerator (12);
the regenerator (12) having an inlet (48) for a regenerating medium and an outlet (18) for catalyst; and
wherein the first catalyst discharge line (22) and the outlet line (18) in fluid communication with the first end (28) of the riser (16).

It is noted, and as stated above, that the claims have been interpreted to fall under the apparatus statutory class of invention and the appropriate principles for interpreting claims for that particular category of invention have been applied. Therefore the manner of operating the device does not differentiate the apparatus claims from the prior art, MPEP 2114, and the material or article worked upon also does not limit the apparatus claim, MPEP 2115.

With respect to claim 29, Wegerer et al. further discloses wherein the disengaging zone (10) comprises at least one cyclone separator (32).

With respect to claim 30, Wegerer et al. further discloses wherein the cyclone separator (32) has a catalyst discharge end (35) and a product discharge end (34)

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which also functions as the product outlet line. With regard to the olefin product, the material or article worked upon also does not limit the apparatus claim, MPEP 2115

With respect to claim 31, Wegerer et al. further discloses wherein the disengaging zone (10) is in fluid communication with a stripping zone (38), with the second catalyst discharge line (42) located below the stripping zone (38) (see fig. 1).

With respect to claim 32, Wegerer et al. further discloses wherein the stripping zone (38) is located within the disengaging zone (10)(see fig. 1).

With respect to claim 33, Wegerer et al. further discloses wherein a catalyst cooler is in fluid communication with the regenerator (col. 14, lines 3-18).

With respect to claim 33, Wegerer et al. further discloses wherein one end (28) of the reactor riser (16) is different in diameter from the opposite end (30).

With respect to claim 36, while the manner of operating the device does not differentiate the apparatus claims from the prior art, MPEP 2114, Wegerer et al. further discloses wherein the apparatus is configured to impart a superficial gas velocity in the range of 1-20 m/sec (col. 5, lines 10-14).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 34, 35, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wegerer et al. (5,451,313), as applied to claim 28 above, and further in view of Lomas et al. (5,302,280).

With respect to claims 34 and 35, Wegerer et al. discloses all of the structural elements as discussed above, but does not disclose wherein the second end of the riser is greater in diameter than the first end.

Lomas et al. discloses a system including a riser (26), disengaging zone (34), stripper (52) and regenerator (10) wherein the riser has a second end (beginning at 26) which is greater in diameter than a first end (22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the riser design of Lomas et al. in the apparatus of Wegerer et al. as in order to have an intermediate zone (26) to allow mixture of the catalyst, feed and lift gas (col. 9, line 1-5) as taught by Lomas et al.

With respect to claim 37, Wegerer et al. discloses all of the structural elements as discussed above, but does not disclose wherein there is a second feed inlet to the riser.

Lomas et al. discloses a system including a riser (26), disengaging zone (34), stripper (52) and regenerator (10) wherein the riser comprises a second feed inlet (24), above the first feed inlet (20) at a first end, which provides feed to the second end of the riser. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide multiple feed inlets in the system of Wegerer et al. in

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order to further promote the upward movement of media through the riser as well as to multiply the amount of feed to be introduced into the apparatus.


With respect to claim 38, the manner of operating the device does not differentiate the apparatus claims from the prior art, MPEP 2114, and the material or article worked upon also does not limit the apparatus claim, MPEP 2115

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Alexa A. Doroshenk
Examiner
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